NGN Introduction

Soft Switching

Claudio Fiorentini
Country Manager
Italy

Francisco Prieto
NGN Solutions Manager
EMEA

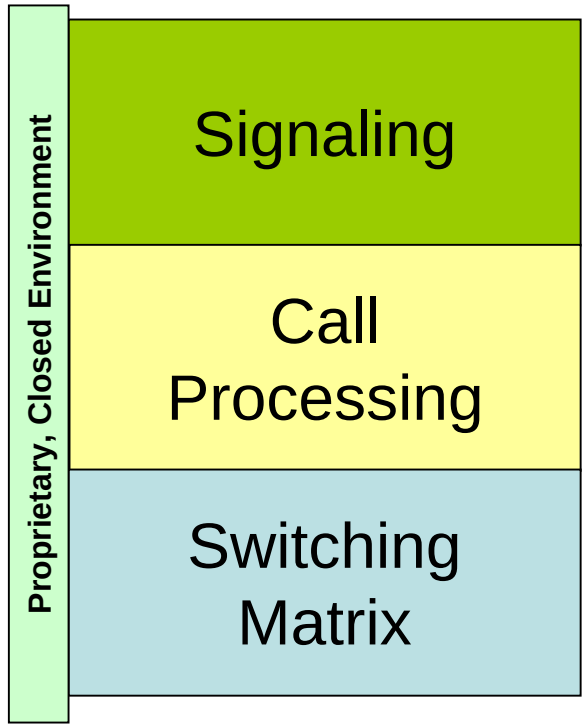
Agenda

- Evolution from TDM to NGN
- UTStarcom Architecture
- Tiscali IOT environment
- Tiscali UTStarcom Solution Topology
- NGN UTStarcom Solution Benefits

Traditional Telephone Networks

- Commonly referred to as PSTN.
  - Public Switched Telephone Network.
- PSTN Network composed of:
  - Access devices.
  - Switching.
  - Transport.

Generic Switch Architecture

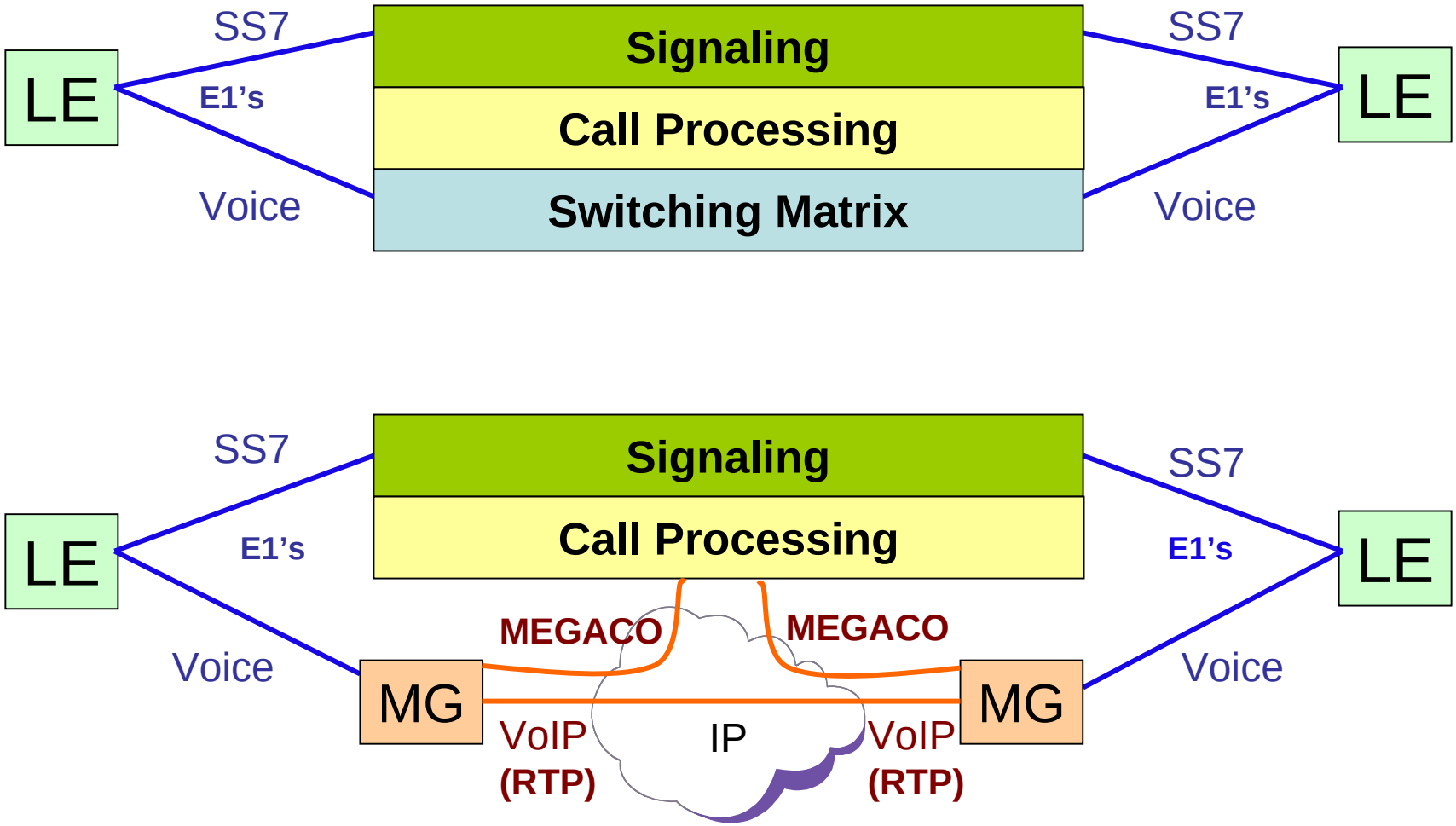


What is a Soft Switch?

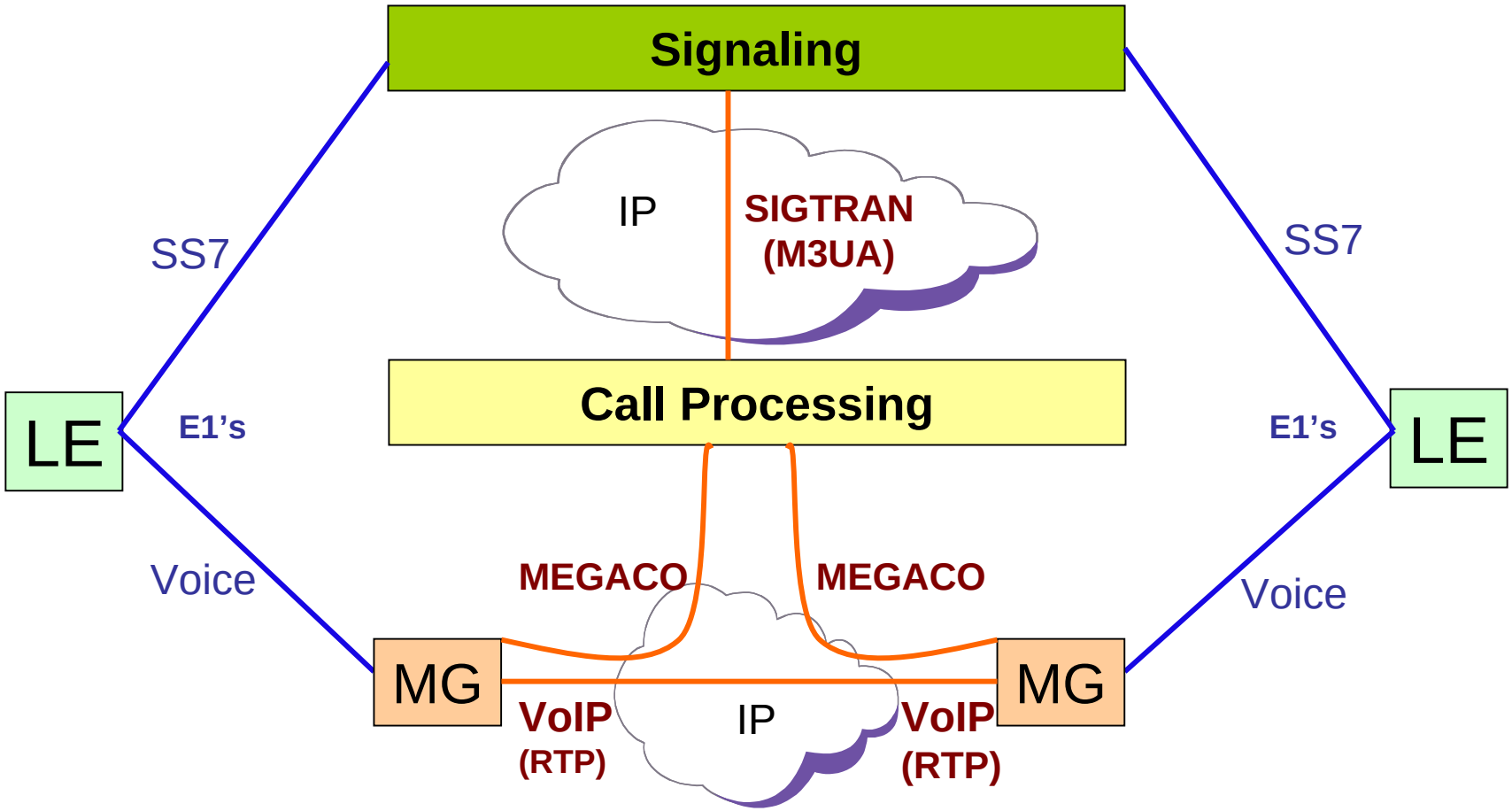
Voice switching platform built in a **distributed architecture**, based on **open standard interfaces** between its components and supported by actual TDM (PDH/SDH) and packet switching transport networks (IP).

- Performs the same functions as legacy PSTN Switches, but in a more flexible, economic and open architecture.
- Softswitches leverage the actual data network technologies for transporting voice media and signaling.
  - Voice – VoIP (RTP/RTCP).
  - Signaling – MGCP, MEGACO, SIGTRAN, SIP, SNSP, etc.

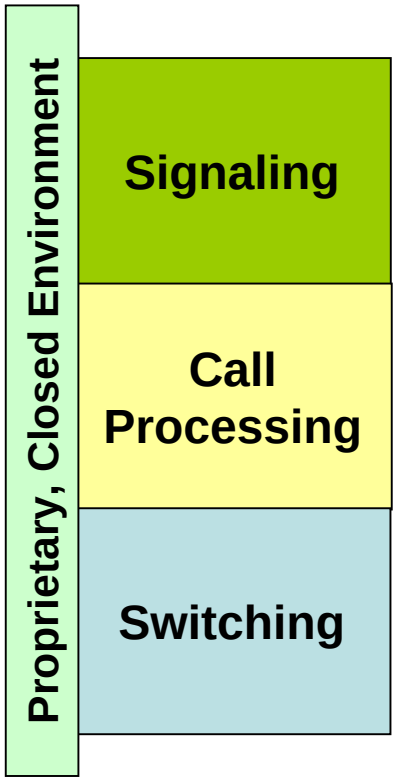
Legacy - NGN Evolution



Legacy - NGN Evolution

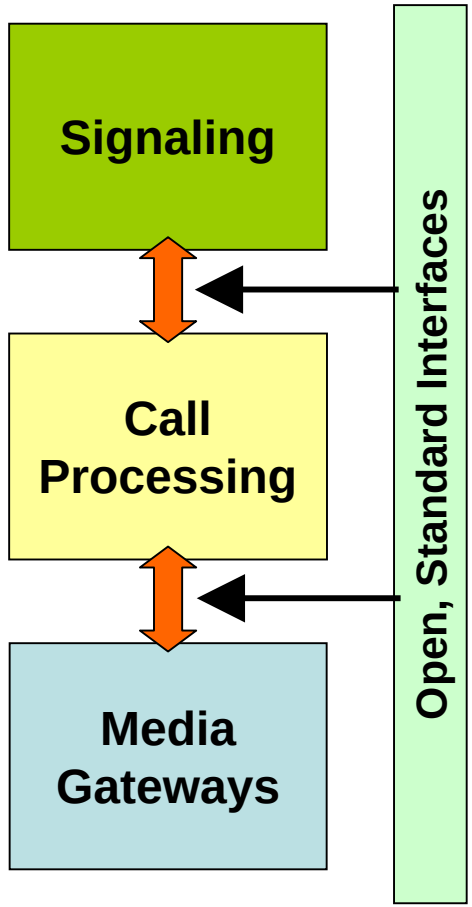


Legacy Switch vs. Softswitch

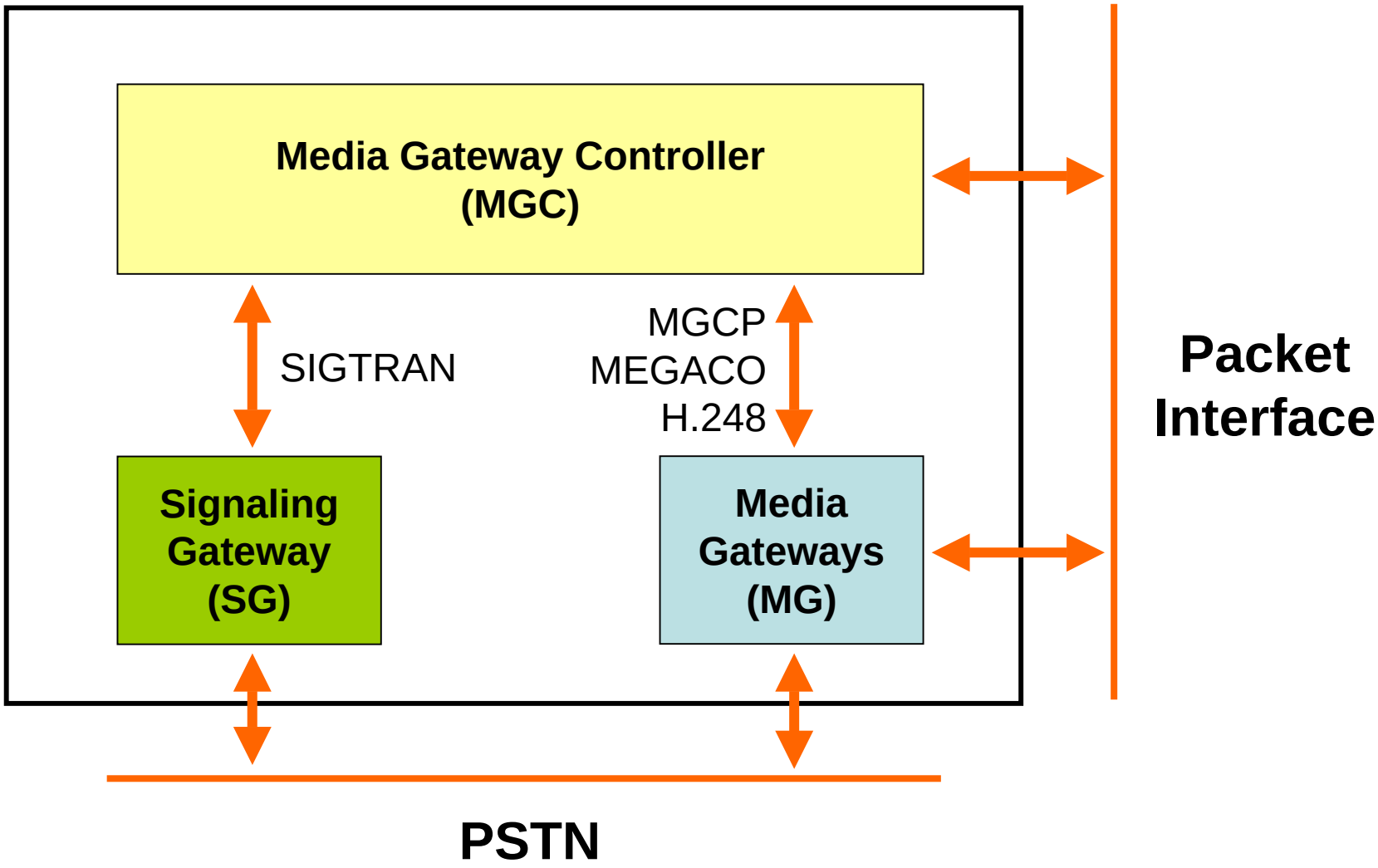


- Monolithic
- Proprietary
- Expensive
- Dependant

- Distributed
- Open Interfaces
- Scalable
- Vendor independent
- Convergence

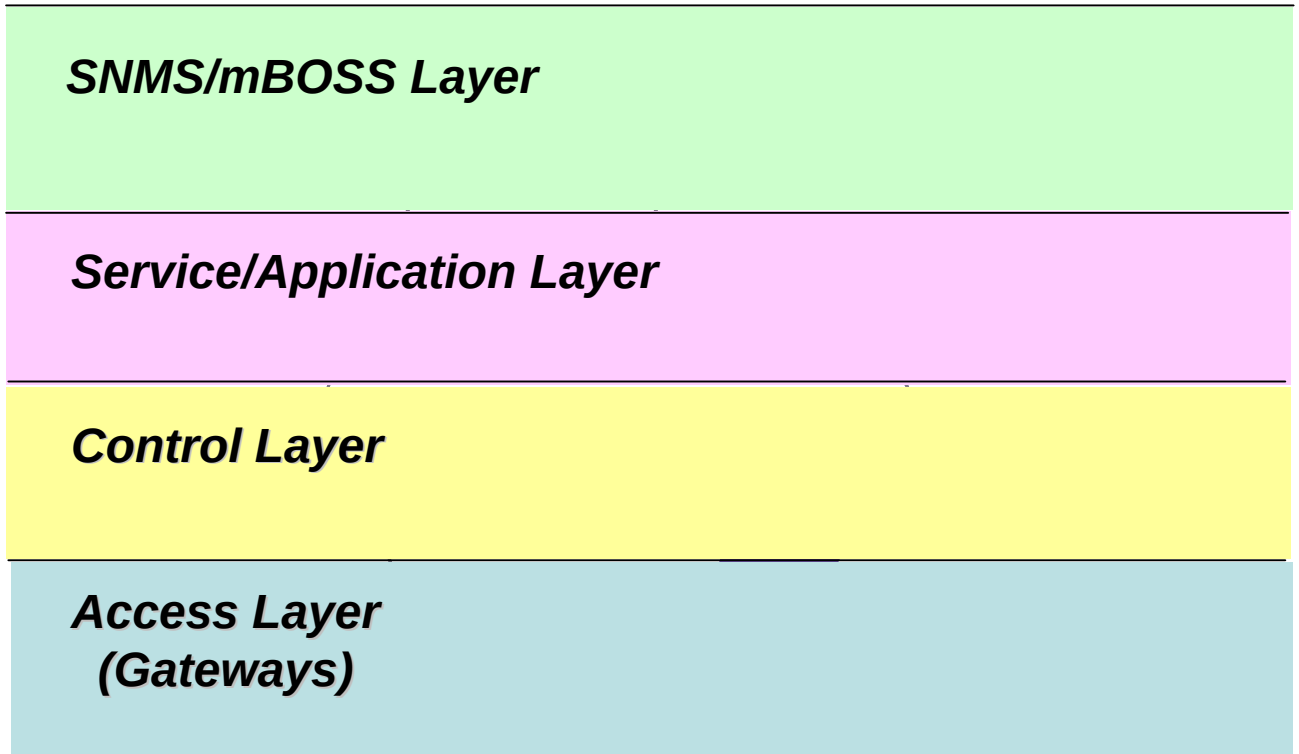


Distributed Softswitch Model

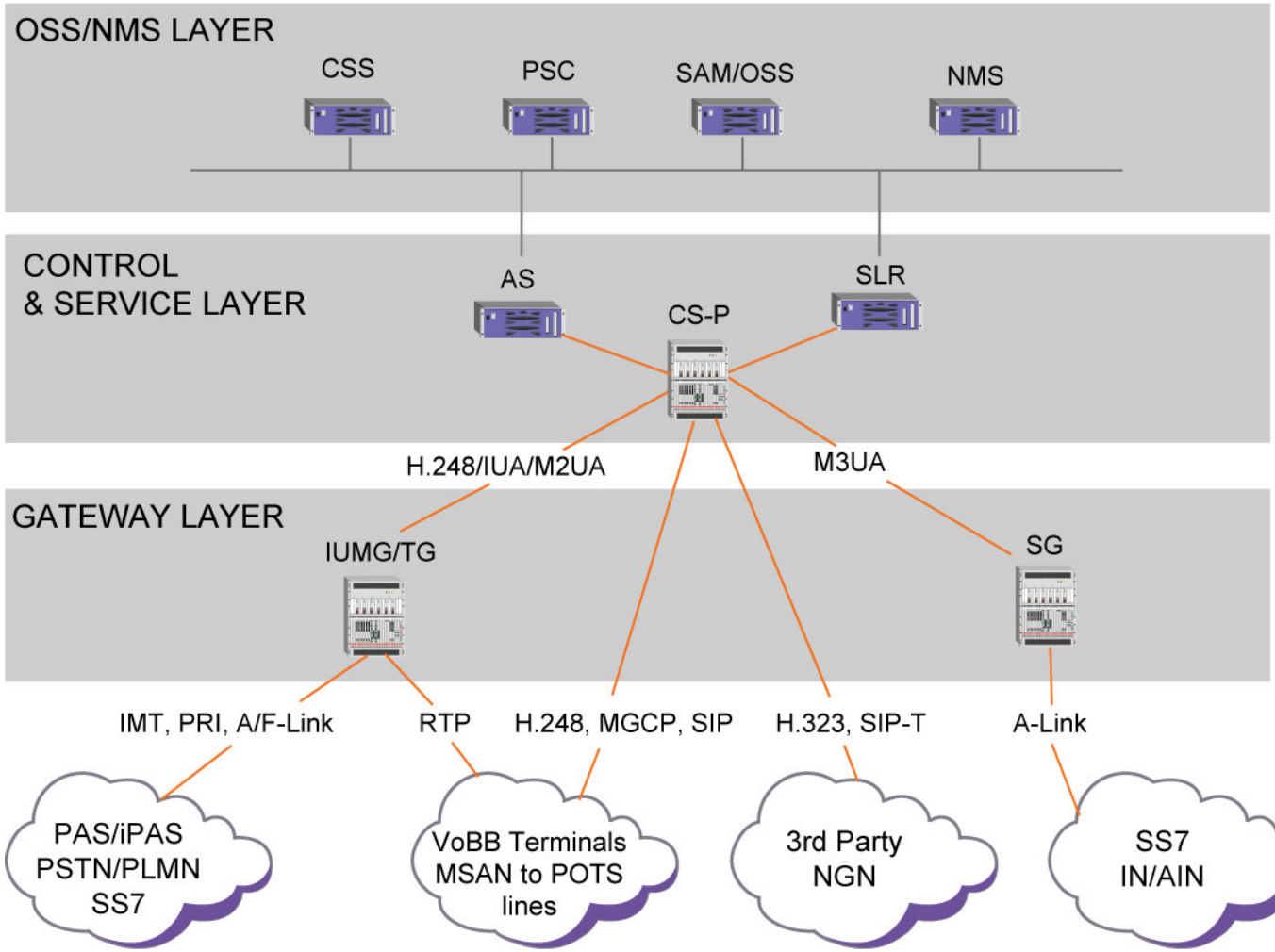


mSwitch Architecture

- Logically, mSwitch architecture consists of 4 layers:



mSwitch R6 Network Architecture



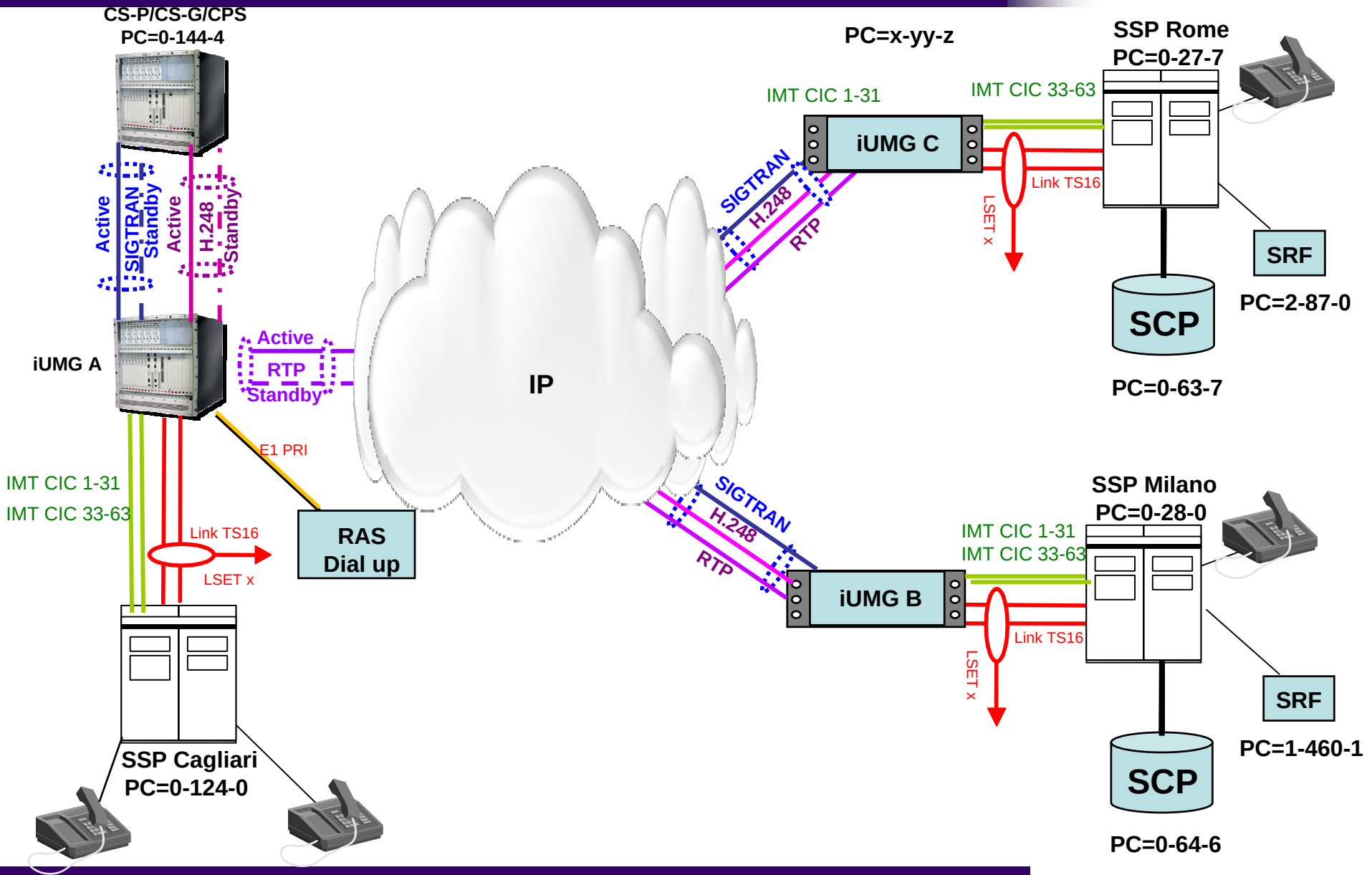
- Server applications can be collocated. Minimum deployable configuration requires 3 Sun servers.
- Chassis components can be collocated. Minimum deployable configuration requires 1 mSwitch chassis.
- AS is a placeholder for applications such as voice mail, ring back tone, find me follow me, etc.

AS – Application Server
NMS – Network Management System
SG – Signaling Gateway

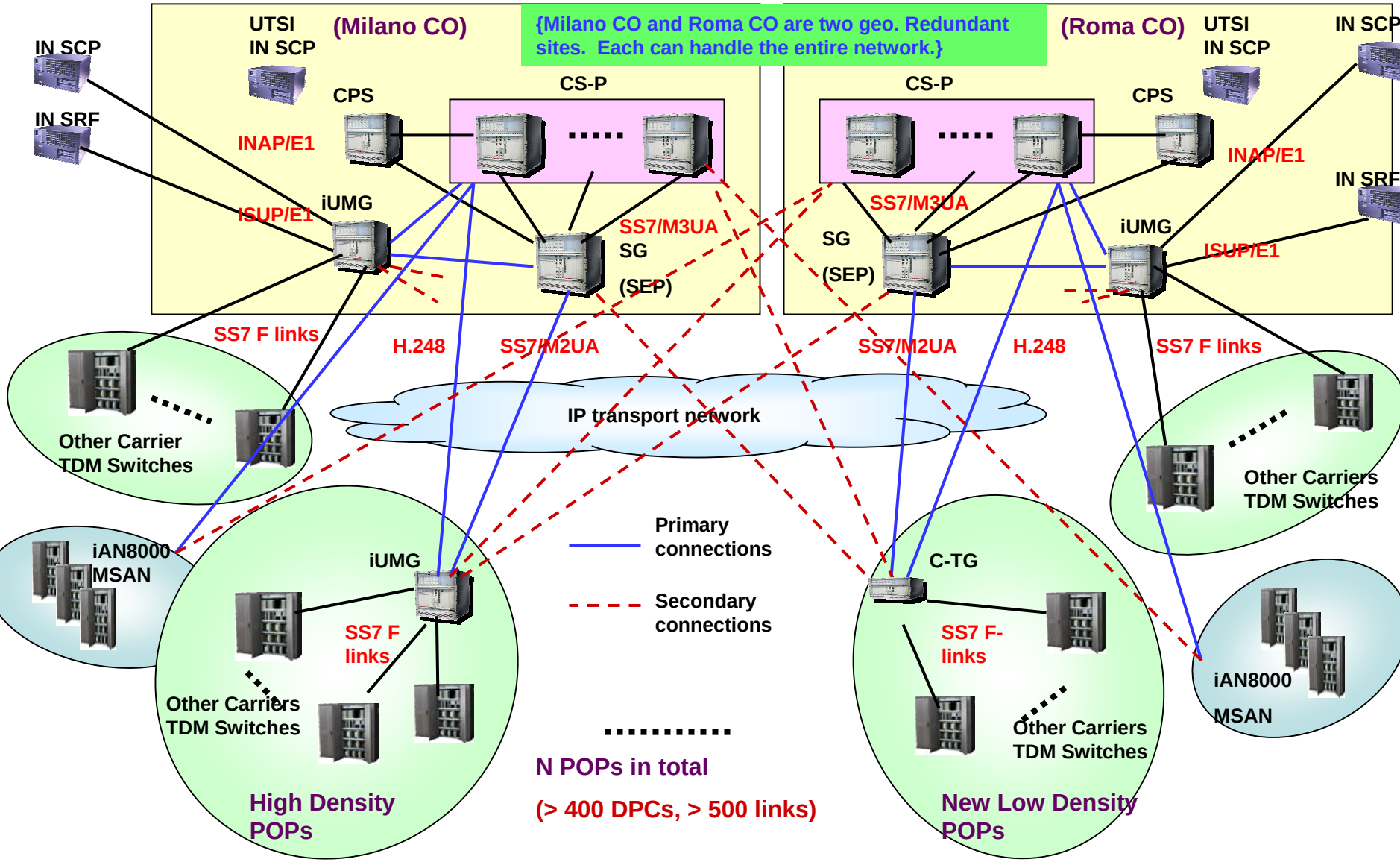
CS-P – Call Server Pro
PSC – Processing Server for CDRs
SLR – Subscriber Location Register

CSS – Customer Self-Service
SAM – Subscriber Administration Management
iUMG/TG – IP based Unified Media Gateway/Trunk Gateway

TISCALI IOT Environment



TISCALI
UTStarcom Solution Topology



Benefits

- Increase the granularity and power processing distribution of the Network
  - Low density interconnection
  - Signaling, Media and IN capabilities distributed or concentrated depending on carrier needs
- One Network
  - Reduction planning and engineering time
  - Reduction maintenance and operation costs
- Transport
  - Eliminate the need of internal E1
  - Reduction bandwidth needed
  - Reduction maintenance and operation costs
- Organization
  - UTStarcom solution implemented in a common platform allow to focus on services instead of networks

Grazie